

Work Order ID 150109

Wednesday, August 24, 2016 11:33:06 AM

150109

Page 1

Item ID: D3774-3

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Seat Back, LH/RH

Start Date: 8/17/2016 Start Qty: 2.00

2

Cust Item ID:

Required Date: 8/24/2016 Req'd Qty: 2.00

2

Customer:

Reference:

Approvals:

Process Plan:

DAS

21

Date: AUG 24 2016

Tooling:

Date:

Run Start

NR1

QC:

9-89

Date: SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

Draw Nbr

Revision Nbr

D3774

Rev B

100

0.00

100

HAND FINISHING THERMOFORMING

Thermoform

Memo

0.06

Thermoforming Machine

Set up machine program D3774-3Set up clamping frame as per folio

DAS

07

9-89

16/09/13

110

0.00

110

HAND FINISHING THERMOFORMING

Thermoform

Memo

0.03

Thermoforming Machine

Cut Blanks

DAS

07

9-89

16/09/13

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
246 70 88-4									
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐		OTHER : _____					

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Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

115

0.00

115

HandThermo

Dry Material

Memo

0.00

Hand Finishing Thermoforming

Dry Sheet as per QSI022 POLYCARBONATE

Temp: 245 deg

SEP 12 2016

Time IN: 5:00 PM

Time OUT: 6:00 AM

Per.....

DAS
07
9-89

16/09/13

120

0.00

120

Thermoform

THERMOFORMING MACHINE

Memo

0.16

Thermoforming Machine

Thermoform as per Dwg. D32811and Folio FTA 01

1Dwg. Rev. B

Folio Rev. C

Visually inspect for proper formation of each part

DAS
07
9-89

16/09/13

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2AL TO 08-0			2105 01 012			Completed By															
						Lead hand / Supervisor Approval Verification															
						QC / QA Coordinator Approval															
Root Cause			FAULT CATEGORY																		
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Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140 *140* Thermoform Thermoforming Machine	HAND FINISHING THERMOFORMING Memo Trim to Finished Dimensions	0.00 0.23				<u>2</u>			DAS 07 9-89 14/09/13
150 *150* QC Quality Control	QC2- Inspect parts off machine FAI/FAIB Memo 1) Check dimensions to ensure conformity to drawing tolerances.	0.00 0.00				<u>2</u>			DAS 07 9-89 16/09/14
160 *160* QC Quality Control	QC5- Inspect part completeness to step on W/O Memo	0.00 0.01				<u>(2)</u>			DAS 38 9-89 SEP 27 2016

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

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Work Order update only ☐

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150109

Page 4

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Revision ID: Stop ***NS2***
Item Name: Seat Back, LH/RH
Start Date: 8/17/2016 Start Qty: 2.00 ***2*** Cust Item ID:
Required Date: 8/24/2016 Req'd Qty: 2.00 ***2*** Customer:
Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____ Run Start ***NR1***
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____ Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	Identify as per dwg & Stock Location: <u>Std 250</u>	0.00							
170									
Packaging	Memo	0.00				<u>2</u>	DAS 6 9-89		SEP 3 0 2016
Packaging									
180	QC21- Final Inspection - Work Order Release	0.00							
180									
QC	Memo	0.03					DAS 21 9-89		OCT 0 3 2016
Quality Control									

DAS
21
9-89 SEP 3 0 2016

DQA: _____ Date: _____



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Picklist Print

Wednesday, August 24, 2016 11:33:09 AM

Page 1

Work Order ID: 150109

150109

Parent Item: D3774-3

D3774-3

Parent Item Name: Seat Back, LH/RH

Start Date: 8/17/2016

Required Date: 8/24/2016

Start Qty: 2.00

Required Qty: 2.00

Comments:

IPP REV:A New Issue 08.06.04 DL verified by:DD

IPP REV. B Dwg. Update 08.08.19 DL

Add Step 115 Dry Material 10/04/21 DL

Ipp Rev. C

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
---------------------------------	------------------------	---------------	-------------	---------------------	------------------	-----------------	--------------------	----------------	-------------	--------------	---------------	----------------	--------

MLEXS.125-F60029-04

Purchased

No

100

sf

2,192.100

10.667

25.09882

**DAS
07
9-89**

MI FXS 125-F60029-04

GE PLASTICS LEXAN SHEET (DARK GREY)

16/09/14

Location

Loc Qty

Loc Code

MAT018

2192.1

m135074

2192.1

25.0988235 sq ft.

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:12.5%;">Skid-tube ☐</td> <td style="width:12.5%;">Cross tube ☐</td> <td style="width:12.5%;">Water Jet ☐</td> <td style="width:12.5%;">Engineering ☐</td> </tr> <tr> <td>Machining ☐</td> <td>Small Fab ☐</td> <td>Prod. Eng. Coord. ☐</td> <td>Quality ☐</td> </tr> <tr> <td>Thermoforming ☐</td> <td>Finishing ☐</td> <td>Rec/Store/Packaging ☐</td> <td>Other ☐</td> </tr> <tr> <td>Large Fab ☐</td> <td>Composite ☐</td> <td>Supplier ☐</td> <td></td> </tr> </table>						Skid-tube ☐	Cross tube ☐	Water Jet ☐	Engineering ☐	Machining ☐	Small Fab ☐	Prod. Eng. Coord. ☐	Quality ☐	Thermoforming ☐	Finishing ☐	Rec/Store/Packaging ☐	Other ☐	Large Fab ☐	Composite ☐	Supplier ☐																																							
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2AC TO 28-2								Lead hand / Supervisor Approval Verification																																																							
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OTHER : _____																																																															

DART AEROSPACE LTD		Work Order: 150109
Description: Seat Back		Part Number: D3774-3
Inspection Dwg: D3774	Rev: B	Page 1 of 1

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

THERMOFORMING SECTION

Description	Accept	Reject	Method of Inspection	Comments
Shape Definition	✓			
Texture Retention	✓			
Material imperfections such as bumps, cracks, voids, scratching	✓			

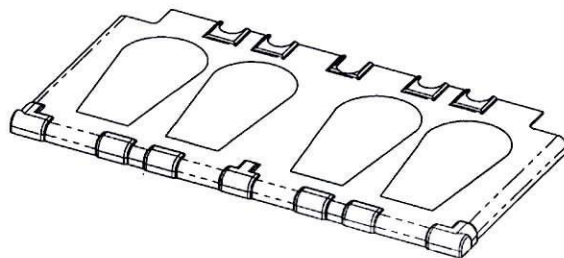
Measured by: DAS 07 9-89	Date: 16/09/13
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TRIMMING SECTION

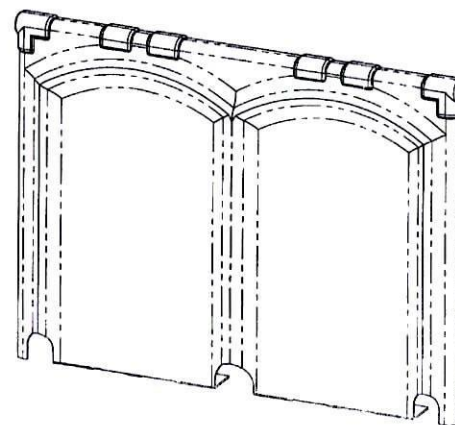
Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
1.3	+/-0.100	1.4"	✓			
33.9	+/-0.100	33.8"	✓			
0.085	Min	0.094"	✓			
0.100	Min	0.111"	✓			
0.100	Min	0.109"	✓			
0.100	Min	0.112"	✓			
0.100	Min	0.112"	✓			
0.100	Min	0.116"	✓			
0.100	Min	0.114"	✓			
0.100	Min	0.106"	✓			
N/A 0.100	Min					

Measured by: DAS 07 9-89	Date: 16/09/14
Audited by: DAS 38 9-89	Date: SEP 27 2016
Prototype Approval: N/A	Date: N/A

Rev	Date	Change	Revised by	Approved
A	08.09.04	New Issue	KJ/DL	
B	09.05.19	Dimension 17.4 removed	KJ	



D3774-1 SEAT BOTTOM



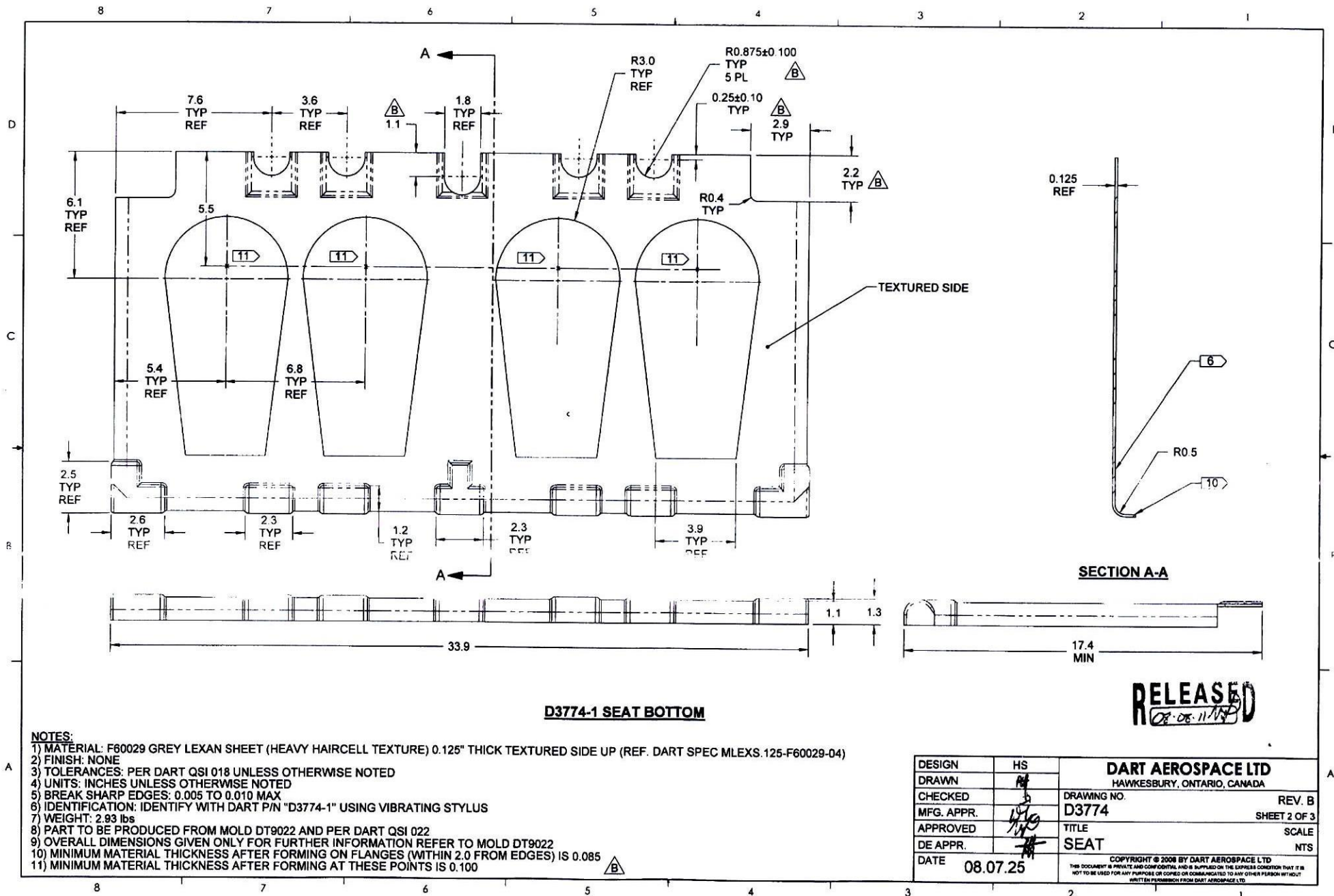
D3774-3 SEAT BACK

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 150109 MWS

16-08-24

RELEASED
08-08-11/11/11

B	UPDATE CUTOUT DIMENSIONS (ZN D4-2, D6-2, C4-3, C7-3); UPDATE MINIMUM THICKNESS (ZN A5-2, A5-3); ADD HOLES ON D3774-3 (ZN B8-3); REASON: MANUFACTURING CAPABILITIES		PH	08.07.25
A	NEW ISSUE		HS	08.06.23
REV.	DESCRIPTION		BY	DATE
DESIGN	HS	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D3774 TITLE SEAT SCALE NTS SHEET 1 OF 3 REV. B DATE 08.07.25		
DRAWN	PH			
CHECKED	PH			
MFG. APPR.	PH			
APPROVED	PH			
DE APPR.	PH	COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.		



8 7 6 5 4 3 2 1

D

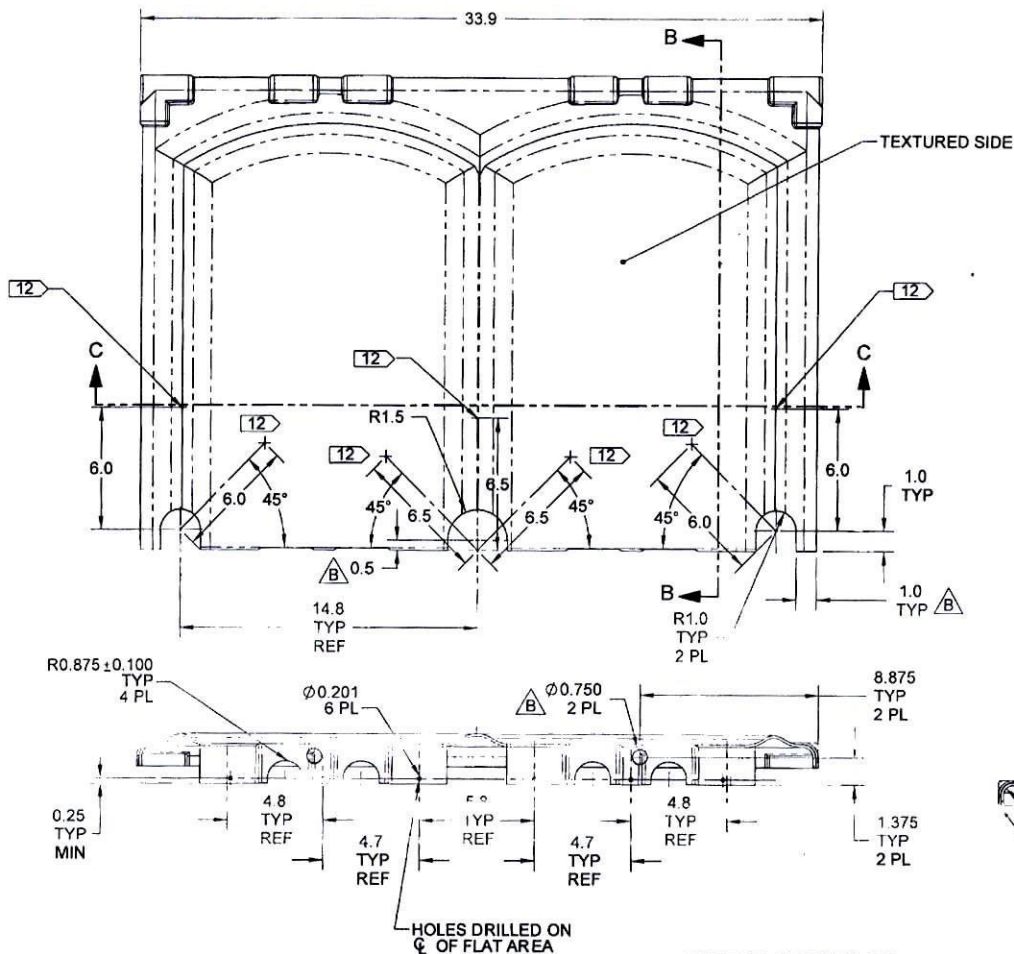
C

D

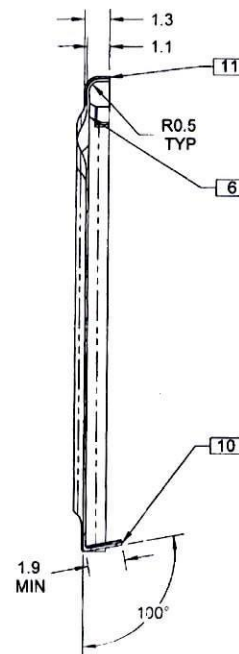
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B

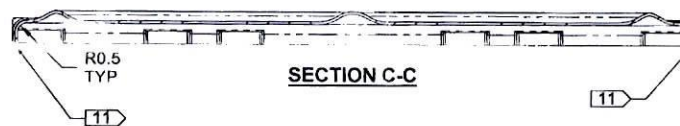
A



D3774-3 SEAT BACK



SECTION B-B



SECTION C-C

NOTES:

- 1) MATERIAL: F60029 GREY LEXAN SHEET (HEAVY HAIRCELL TEXTURE) 0.125" THICK TEXTURED SIDE UP (REF. DART SPEC MLEXS.125-F60029-04)
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D3774-3" USING VIBRATING STYLUS
- 7) WEIGHT: 4.82 lbs
- 8) PART TO BE PRODUCED FROM MOLD DT9023 AND PER DART QSI 022
- 9) OVERALL DIMENSIONS GIVEN ONLY FOR FURTHER INFORMATION REFER TO MOLD DT9023
- 10) MINIMUM MATERIAL THICKNESS AFTER FORMING ON BOTTOM FLANGE IS 0.065
- 11) MINIMUM MATERIAL THICKNESS AFTER FORMING FLANGES (WITHIN 2.0 FROM EDGES) IS 0.085
- 12) MINIMUM MATERIAL THICKNESS AFTER FORMING AT THESE POINTS IS 0.100

RELEASED
08-05-11

DESIGN	HS	DART AEROSPACE LTD	
DRAWN	RE	HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO.	REV. B
MFG. APPR.		D3774	SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		SEAT	NTS
DATE	08.07.25	COPYRIGHT © 2008 BY DART AEROSPACE LTD	
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